

a cache memory pointer holding means for holding an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored; and

A1 a prereading startup judgement means for judging whether or not prereading of data is to be performed to leave at least several blocks of data which have already been transferred to the host device, on the cache memory, by employing the under-transfer address and the next preread data storage start address which are held by the cache memory pointer holding means.

6. (Amended) A disk memory device as defined in Claim 1, wherein:
the prereading startup means stores a plurality of preread data, which have successively been read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

10. (Amended) A data prereading method as defined in Claim 8, wherein:
when there are a prereading rule decided in the prereading rule decision step and a prereading rule which has been employed immediately before the decided prereading rule and, further, the prereading directions of these prereading rules are the same, the prereading area decision step decides the position and size of data to be preread on the disk memory medium by employing both of the prereading rules in combination.

11. (Amended) A data prereading method as defined in Claim 7, further comprising:
a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

12. (Amended) A data prereading method as defined in Claim 7, wherein:
the prereading startup step stores a plurality of preread data which have been successively read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

16. (Amended) A recording medium as defined in Claim 14, wherein:
in the data prereading method, when there are a prereading rule decided in the prereading rule decision step and a prereading rule which has been employed immediately before the decided prereading rule and, further, the prereading directions of these prereading rules are the same, the prereading area decision step decides the position and size of data to be preread on the disk memory medium by employing both of the prereading rules in combination.

17. (Amended) A recording medium as defined in Claim 13, wherein the data prereading method further comprises:
a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

18. (Amended) A data prereading method as defined in Claim 13, wherein:
in the data prereading method, the prereading startup step stores a plurality of preread data which have been successively read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

Please add the following new claims:

19. A disk memory device as defined in Claim 3, wherein:

the prereading rule holding means holds a plurality of prereading rules; and
when there are a prereading rule decided by the prereading rule decision means and a
prereading rule which has been employed immediately before the decided prereading rule and,
further, the prereading directions of these prereading rules are the same, the prereading area
decision means decides the position and size of data to be preread on the disk memory medium by
employing both of the prereading rules in combination.

20. A disk memory device as defined in Claim 2, further comprising:

a cache memory pointer holding means for holding an under-transfer address indicating
the position, on the cache memory, of data which is currently being transferred to the host device,
and a next preread data storage start address indicating the position on the cache memory where
next preread data is to be stored; and

a prereading startup judgement means for judging whether or not prereading of data is to
be performed to leave at least several blocks of data which have already been transferred to the
host device, on the cache memory, by employing the under-transfer address and the next preread
data storage start address which are held by the cache memory pointer holding means.

21. A disk memory device as defined in Claim 3, further comprising:

a cache memory pointer holding means for holding an under-transfer address indicating
the position, on the cache memory, of data which is currently being transferred to the host device,
and a next preread data storage start address indicating the position on the cache memory where
next preread data is to be stored; and

a prereading startup judgement means for judging whether or not prereading of data is to
be performed to leave at least several blocks of data which have already been transferred to the
host device, on the cache memory, by employing the under-transfer address and the next preread
data storage start address which are held by the cache memory pointer holding means.

22. A disk memory device as defined in Claim 3, wherein:

the prereading startup means stores a plurality of preread data, which have successively been read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

23 A data prereading method as defined in Claim 9, wherein:

when there are a prereading rule decided in the prereading rule decision step and a prereading rule which has been employed immediately before the decided prereading rule and, further, the prereading directions of these prereading rules are the same, the prereading area decision step decides the position and size of data to be preread on the disk memory medium by employing both of the prereading rules in combination.

24. A data prereading method as defined in Claim 8, further comprising:

a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

25. A data prereading method as defined in Claim 9, further comprising:

a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

26. A data prereading method as defined in Claim 9, wherein:

the prereading startup step stores a plurality of preread data which have been successively read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

27. A recording medium as defined in Claim 15, wherein:

in the data prereading method, when there are a prereading rule decided in the prereading rule decision step and a prereading rule which has been employed immediately before the decided prereading rule and, further, the prereading directions of these prereading rules are the same, the prereading area decision step decides the position and size of data to be preread on the disk memory medium by employing both of the prereading rules in combination.

28. A recording medium as defined in Claim 14, wherein the data prereading method further comprises:

a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

29. A recording medium as defined in Claim 15, wherein the data prereading method further comprises:

a prereading startup judgement step of judging whether or not prereading of data is to be performed to leave, on the cache memory, at least several blocks of data which have already been transferred to the host device, by employing an under-transfer address indicating the position, on the cache memory, of data which is currently being transferred to the host device, and a next preread data storage start address indicating the position on the cache memory where next preread data is to be stored.

30. A data prereading method as defined in Claim 15, wherein:
in the data prereading method, the prereading startup step stores a plurality of preread data which have been successively read out in the backward direction, successively into a backward-direction area in an address space on the cache memory.

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